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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,539

07/19/2006

Veikko Ilmasti

22331-00001-US1

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30678

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02/25/2008

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WASHINGTON, DC 20036

EXAMINER

CHIESA, RICHARD L

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

02/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,539	<b>Applicant(s)</b> ILMASTI, VEIKKO	
	<b>Examiner</b> Richard L. Chiesa	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>July 19, 2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The preliminary amendment filed on July 19, 2006 has been entered.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

3. The drawings filed on July 19, 2006 are objected to because the bottom part of the drawing (including reference numerals 1, 5, 7, 2, and 3) appears to be duplicated. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be

Art Unit: 1797

labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The abstract of the disclosure is objected to for the following reasons: (A) It contains the legal terms "comprises" and "said". (B) The last four lines appear to be duplicated. Correction is required. See MPEP § 608.01(b).

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because the word "devices" on the first line of the second paragraph on page 1 should apparently be changed to --device--. Appropriate correction is required.

Art Unit: 1797

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,072,477 to Hanson et al in view of U.S. Patent No. 6,267,802 to Baldrey et al. Hanson et al disclose an air purification device and method (note Figures 1-13) with dies 17, 27 producing water droplets, corona or ion emitting tips 14, 24, liquid drain 28, and grounded collecting surfaces 16, 26 (note col. 5, lines 1-19, col. 6, lines 42-68, and col. 8, lines 12-24) substantially as claimed. It would appear that Hanson et al may not explicitly state the size of the water droplets used. However, they do disclose that a small droplet size is preferred (note col. 6, lines 59-68). In any case, Baldrey et al (note col. 6, lines 24-47) teach the well-known use of a droplet size between 20 and 40 micrometers in an electrostatic precipitation air purification device and method for the purpose of ensuring maximum atomization and vaporization (note col. 6, lines 7-24). Consequently, it would have been readily obvious to one having ordinary skill in the art to employ a droplet size between 20 and 40 micrometers in the Hanson et al air purification device and method in order to enhance atomization and vaporization as taught by Baldrey et al.

Art Unit: 1797

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 2 in paragraph 8 above, and further in view of U.S. Patent No. 4,141,698 to Kihlstedt et al. The prior art, as described above in paragraph 8, discloses an air purification apparatus substantially as claimed. However, the prior art may not explicitly disclose an ultrasound-oscillator or compressor-pressurized air water droplet producer. In any case, Kihlstedt et al (note ref. character 2', and col. 4, lines 13-43) teach the well-known use of an ultrasound-oscillator or compressor-pressurized air water droplet producer in an electrostatic precipitation air purification apparatus for the purpose of ensuring small droplet sizes (note col. 3, lines 10-12). For this same reason, it would have been obvious to one of ordinary skill in the art to employ such an expedient in the prior art air purification electrostatic precipitator.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references have been cited as art of interest to show other air purification systems.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-1700.

Facsimile correspondence must be transmitted through (571) 273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard L. Chiesa  
February 19, 2008

**/Richard L. Chiesa/  
Primary Examiner, Art Unit 1797**

**RICHARD L. CHIESA  
PRIMARY EXAMINER  
ART UNIT 1797**